is fed to the head of the column, either separately through line 9 or, through line 8, together with one or more of the streams, the organic stream of line 4 and the aqueous stream of line 7, which converge into line 8 and which are refluxed to the column, together or separately.

The fresh feeding stream of p-xylene in the column D is compatible with the material balance of the oxidation reactor, i.e. the quantity of p-xylene necessary as extraction solvent for the separation between water and acetic acid is lower than - or, at most, equal to - the quantity of p-xylene corresponding to the oxidation capacity of the plant. The fresh p-xylene which is fed to the separation section before being used in the oxidation reaction, can be the whole amount of fresh p-xylene or only a part of it, approximately from 40 to 100%, whereas the complement to 100% can be introduced directly to the reaction step.

In the scheme of figure 2, the hydrocarbon stream is refluxed to the head of column D through line 10: according to an embodiment variation of the process, it can be fed - completely or partially - according to the scheme shown in figure 2, to a few trays lower than the feeding of the fresh hydrocarbon from line 9, through line 11 indicated with a dotted line.

In the same way, the aqueous stream refluxed into the

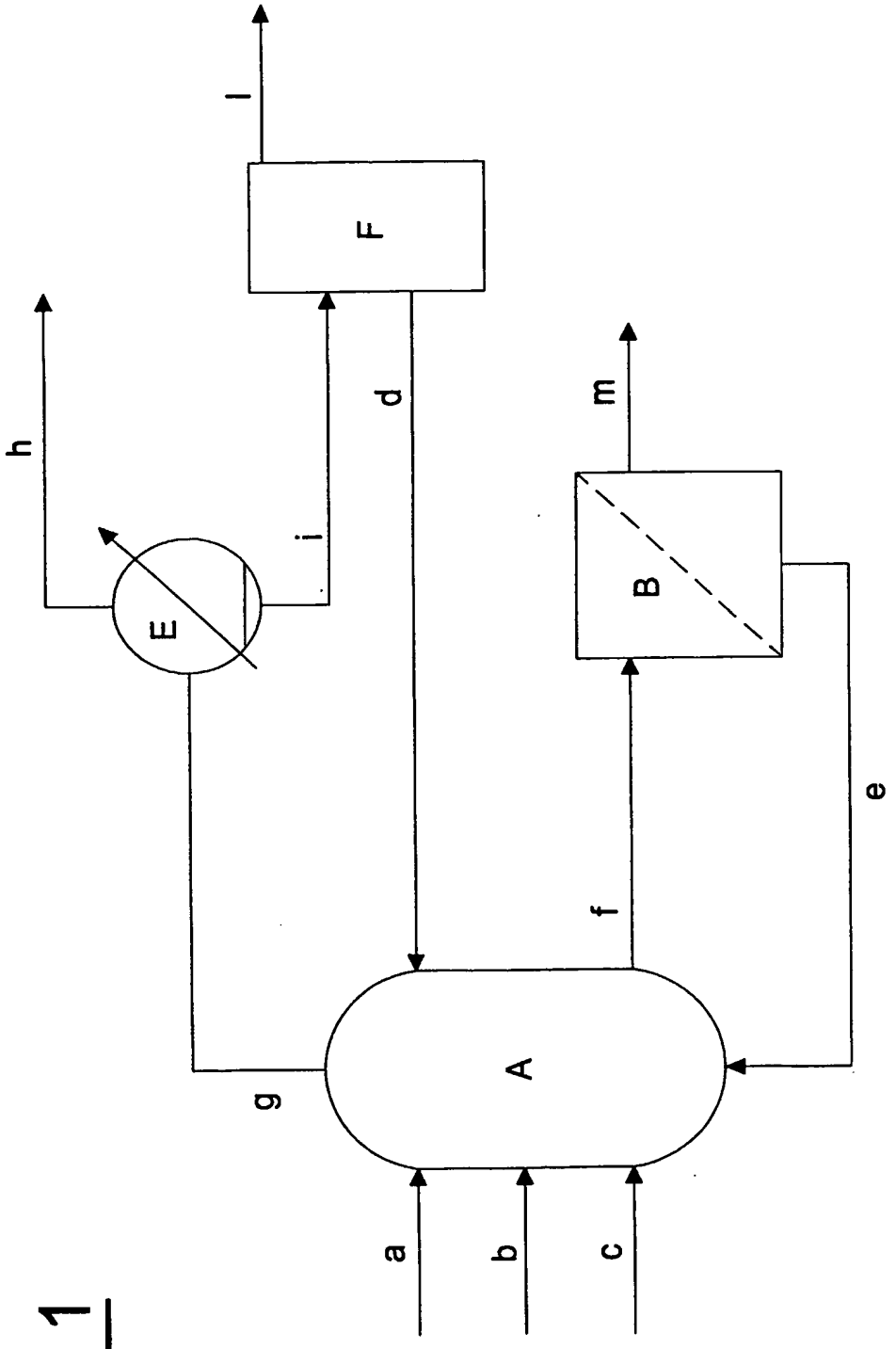

Fig. 1

Fig. 2